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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/586,887 | 07/20/2006 | Chang Oon Kim | 27278-11790 | 8119 |

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| EXAMINER |
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HICKS, CHARLES V

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| ART UNIT | PAPER NUMBER |
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2629

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| MAIL DATE | DELIVERY MODE |
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04/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/586,887 | Applicant(s) KIM ET AL. | |
| | Examiner CHARLES HICKS | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/20/2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/20/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art (AAPA) in view of Hill (US 5,790,096).

In reference to claim 1, applicants admitted prior art teaches an organic electroluminescence (EL) display driving circuit (AAPA Fig. 1; current specification page 1 line 25),

a display signal terminal (AAPA Fig. 1, Display signal),

and a pre-signal terminal (AAPA Fig. 1, Pre-signal),

for supplying a display signal to a bias circuit of a column driving circuit and a row voltage supply circuit (AAPA Fig. 1; current specification page 1 line 25-page 2 line 11).

Applicants admitted prior art however fails to teach a real display signal generating circuit connected to a display signal, shielding a row line flashing, as claimed.

Hill discloses a display control system, analogous in art with that of applicants admitted prior art, wherein a real display signal generating circuit is connected to a display signal, shielding row line flashing (Hill, Figs. 7 and 14; The current specification teaches that the "real display signal" generating circuit is such that it generates a signal which is "different from a signal inputted from an exterior" (current specification pg. 3 ll. 17-20). The current specification also teaches that the "real display signal" is such that the display is delayed until the input display signal is present and synchronized with a pre-signal (current application Fig. 5). The circuit of Hill is also such that there is generated a signal that is different from a signal inputted from the exterior as shown in Hill Fig. 10, Video input becomes Pixel Data output, and in Hill Fig. 14, Data In 351 becomes

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Data Out 356. Hill further teaches that the display is off until such time as a video input signal is present and synchronization verified (Hill Fig. 5b, steps 107-111; column 3 lines 12-15; Fig. 7, horizontal output HSYNC, vertical output VSYNC, and Display Enable). Therefore it is inherently shown in the teachings of Hill that shielding of the row line flashing at start-up of the display would occur.

At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the organic electroluminescence (EL) display driving circuit of applicants admitted prior art, with a real display signal generating circuit connected to a display signal, shielding row line flashing, as taught by Hill. Examiner respectfully submits that the prior art, taken collectively, reads on the claim limitations. Since Hill discloses the circuit for generating a pixel data output, it would have been within the purview of one having ordinary skill in the art that the circuit of Hill is connected to the display signal terminal and the pre-signal terminal for supplying a real display signal to a bias circuit of a column driving circuit and a row voltage supply circuit, as claimed. This would have been obvious to one having ordinary skill in the art since the synchronization of the display driving signals must be synchronized before driving is commenced.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to prevent deterioration of an organic electroluminescence display by a row line "flash" at start-up, and power conservation.

Claim 2 is rejected as being dependent on rejected claim 1 as discussed above and further, applicants admitted prior art fails to teach the organic EL display driving circuit shielding a row line flashing, wherein the real display signal generating circuit generates a real display signal from the moment a pre-signal is initially inputted from the pre-signal terminal after a display signal is inputted from the display signal terminal.

Hill discloses a display control system, analogous in art with that of applicants admitted prior art,

wherein a display driving circuit is shielding a row line flashing (Hill, Figs. 7 and 14; The current specification teaches that the "real display signal" generating circuit is such that it generates a signal which is "different from a signal inputted from an exterior" (current specification pg. 3 ll. 17-20). The current specification also teaches that the "real display signal" is such that the display is delayed until the input display signal is present and synchronized with a pre-signal (current application Fig. 5). The circuit of Hill is also such that there is generated a signal that is different from a signal inputted from the exterior as shown in Hill Fig. 10, Video input becomes Pixel Data output, and in Hill Fig. 14, Data In 351 becomes Data Out 356. Hill further teaches that the display is off until such time as a video input signal is present and synchronization verified (Hill Fig. 5b, steps 107-111; column 3 lines 12-15; Fig. 7, horizontal output HSYNC, vertical output VSYNC, and Display Enable). Therefore it is inherently shown in the teachings

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of Hill that shielding of the row line flashing at start-up of the display would occur),

the real display signal generating circuit generates a real display signal from the moment a pre-signal is initially inputted from the pre-signal terminal after a display signal is inputted from the display signal terminal (Hill, Fig. 1, col. 10 ll. 64 - col. 11. ll. 6; Hill teaches wherein the system powers up after video is present as indicated by the occurrence of the sync signals. Further, Hill teaches in Fig. 5b; that the display is off until such time as a video input signal is present as in step 109a of Fig. 5b, and verified as in Hill, col. 3, ll. 12-15).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the organic electroluminescence (EL) display driving circuit of applicants admitted prior art, with a real display signal generating circuit connected to a display signal, shielding row line flashing, such that the real display signal generating circuit generates a real display signal from the moment a pre-signal is initially inputted from the pre-signal terminal after a display signal is inputted from the display signal terminal, as taught by Hill.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to prevent deterioration of an organic electroluminescence display by a row line "flash" at start-up, and power conservation.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schiefer et al. (US 6,177,922) reads on video timing.

Sekido et al. (US 2003/0048249) reads on a drive circuit device for a display.

MacInnis et al. (US 2007/0120874) reads on a display system with line buffer control.

Tsuge et al. (US 2005/0030264) reads on electroluminescent display driving.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES HICKS whose telephone number is 571-270-7535. The examiner can normally be reached on Monday-Thursday from 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz, can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sumati Lefkowitz/

Supervisory Patent Examiner, Art Unit 2629